



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम - 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram - 122003, Haryana, India

Service Request Form No. 02

(Solar Power Converters: Off grid / On-grid/Hybrid Systems / Charge controllers/
Pump controllers testing)

1.	File No. (To be filled by office)	
2.	Job No. (To be filled by office)	
3.	Requested By (Name)	
	Address of Company /Individuals (in Capital letters)	
	Contact Details- Email id: Mobile: Landline:	
	PAN:	GST:
4.	a) Manufactured By	
	b) Date of Submission of Samples	
	c) Condition of samples on receipt (To be filled by office)	
	d) Testing procedure / Standards	
	e) Services and type of test requested	
5.	Name of Authorized Contact Person with Mobile Number, Email id:	



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Details of Test Fee (Excluding GST):

OFF Grid SPV Inverter/Converter IS/IEC 61683*	ON Grid SPV Inverter/Converter IS/IEC 61683*	Cost (INR)	Please Tick appropriate column
Inverter Range	Inverter Range		
Upto 1 KVA inverters	Upto 3 KVA inverters	32,500/-	
More than 1KVA to 5KVA	More than 3KVA to 5KVA	45,500/-	
More than 5KVA to 10KVA	More than 5KVA to 10KVA	52,000/-	
More than 10KVA to 20KVA	More than 10KVA to 20KVA	65,000/-	
More than 20KVA to 50KVA	More than 20KVA to 50KVA	78,000/-	

* Tentative time for completion of test: 7 working days

OFF Grid SPV Inverter/Converter IEC 62509*		
Inverter Range	Cost (INR)	Please Tick appropriate column
Upto 3 KVA inverters	26,000/-	
More than 3KVA to 5KVA	28,600/-	
More than 5KVA to 10KVA	32,500/-	
More than 10KVA to 20KVA	45,500/-	
More than 20KVA to 50KVA	58,500/-	

* Tentative time for completion of test: 7 working days

OFF Grid SPV Inverter/Converter MPPT Test*		
Inverter Range	Cost (INR)	Please Tick appropriate column
Upto 3 KVA inverters	45,500/-	
More than 3KVA to 5KVA	52,000/-	
More than 5KVA to 10KVA	65,000/-	
More than 10KVA to 20KVA	78,000/-	
More than 20KVA to 50KVA	97,500/-	

* Tentative time for completion of test: 7 working days

(IEC 61683+IEC 62509+EN 50530)*					
OFF Grid system	Cost (INR)			Total Cost (INR)	Please Tick appropriate column
Inverter Range	IEC 61683	IEC 62509	EN 50530		
Upto 1 KVA inverters	32,500/-	26,000/-	45,500/-	1,04,000/-	
More than 1KVA to 3KVA	45,500/-	26,000/-	45,500/-	90,000/-	
More than 3KVA to 5KVA	45,500/-	28,600/-	52,000/-	1,26,100/-	
More than 5KVA to 10KVA	52,000/-	32,500/-	65,000/-	1,49,500/-	
More than 10KVA to 20KVA	65,000/-	45,500/-	78,000/-	1,88,500/-	
More than 20KVA to 50KVA	78,000/-	58,500/-	97,500/-	2,34,000/-	

* Tentative time for completion of test: 10 working days



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ON Grid SPV Inverter/Converter EN 50530*		
Inverter Range	Cost (INR)	Please Tick appropriate column
Upto 3 KVA inverters	45,500/-	
More than 3KVA to 5KVA	52,000/-	
More than 5KVA to 10KVA	65,000/-	
More than 10KVA to 20KVA	78,000/-	
More than 20KVA to 50KVA	97,500/-	

* Tentative time for completion of test: 7 working days

IS 16169 / IEC 62116: Test procedure of islanding prevention measures for utility-interconnected Photovoltaic inverters			
IS 16169 / IEC 61727: Photovoltaic (PV) systems - Characteristics of the utility interface			
Inverter Range	Standard Name	Cost (INR)	Please Tick appropriate column
Upto 10 KVA inverters	(IS 16169 / IEC 62116 and IEC 61727)*	1,01,400/-	
More than 10KVA to 20KVA	(IS 16169 / IEC 62116 and IEC 61727)*	1,38,450/-	
More than 20KVA to 50KVA	(IS 16169 / IEC 62116 and IEC 61727)*	1,54,700/-	

* Tentative time for completion of test: 7 working days

IEC 60068-2(1, 2, 14, 30)		
Standard Name	Cost (INR)	Please Tick appropriate column
IEC 60068-2(1)-Test A :cold	37,700/-	
IEC 60068-2(2)-Test B :Dry test	37,700/-	
IEC 60068-2(14)-Test N :Change of temperature	37,700/-	
IEC 60068-2(14)-Test N :Damp heat cyclic(12+12 h cycle)	49,400/-	
Combined cost for all four standard	1,30,000/-	

*Tentative time for completion of test: 15 working days

Note: Charges for Pump Controller will be same as ON Grid system



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Performance evaluation testing of Solar PV Power Converters as per the IEC 61683, IEC 62509, EN 50530, IEC 62116, IEC 61727, IEC 60068-2(1, 2, 14 and 30) and MNRE Guidelines, User Specifications.

We hereby place an order on you for the services and type of test required as described below:

Solar PV Power Converters			
Details (Name of the Test)	Quantity	Fee per Sample	Total (₹.)
Sub Total (INR)			
GST			
Grand Total (INR)			



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Testing Fees Details:

Name of the test	
Transaction Details. & Date	
Bank Name	
Total Amount (Rs)	

Declaration: This is to certify that the information furnished in the service request form is true to the best of my knowledge and belief. National Institute of Solar Energy or its authorized nominee will be free to visit our works in order to assess the details provided above by giving advance notice in writing. We also accept the terms and conditions of the National Institute of Solar Energy annexed with this order.

Date:

Place:

Signature with Seal

Important Note:

1. To be signed by competent authority or by officer not below the rank of G.M/ Equivalent
2. Kindly fill separate order form for each Solar PV Power Converters.



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General Terms & Conditions

1. One report will be issued to the customer on the test (s) conducted by NISE, Gurugram.
2. The report shall contain all the parameters measured at NISE along with the parameters required as per the MNRE specifications and claims made by the manufacturer for the sample that has been tested.
3. The report contains the following disclaimers:
 - a) This is a report on measurement carried out on the product /sample no. ----- at the National Institute Solar Energy.
 - b) The sample has been selected and submitted by the customer.
 - c) The data contents in this report do not constitute a qualification certificate under any set of specifications.
 - d) The measurements made and results reported in this test report are valid at the time of and under stipulated conditions of measurement.
4. The test report if reproduced for any purpose, commercial or otherwise, should be reproduced in full. Reproduction of a part of the report or an abstract thereof is not permitted.
5. For identification purposes, all material supplied to the NISE for testing purposes shall be marked clearly and indelibly as per the standard.
6. The National Institute of Solar Energy shall not be responsible for any loss or damage caused to the sample during testing.
7. This test report is not a legal document and is not valid for any kind of legal formalities.
8. The tested sample shall be collected by customer within 90 days of issue of Test Report. After the above said period NISE is not compelled to return the sample.
9. Tentative number of days for completion of tests specified for corresponding standards may vary depending on queue and other unavoidable reasons.

Declaration /Undertaking:

I have read the above mentioned General Terms and Condition carefully and agree with the same.

Date

Signature with Seal

Place

Important Notes: To be signed by the Company authority or Officer, not below the rank of G.M /Equivalent



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Data required by Test Lab.

1.	File No. (Generated by NISE)	
2.	Job No. (Generated by NISE)	
3.	Capacity/Rating	
4.	Date of Submission of Samples	
5.	Condition of samples on receipt	
6.	Testing procedure/ Standards	
7.	Services and type of test requested	
8.	Pass/ fail declaration in the report required: (Please Tick)	Yes No
9.	Whether sample needs to be returned after testing (Please Tick)	Yes No

Declaration: This is to certify that the information furnished in the service request form is true to the best of my knowledge and belief.

Date:

Place:

Signature with Seal

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Information required by Test lab

Sample Details:

Sr. No	Make (Name of Manufacturing Company)	Type/model	Year of Manufacturing	Serial No.	Weight (Kg)	Dimension (Cm) (L X W X H)	Software version
1							
2							
3							
4							
5.							

Details of the test conducted by Manufacturer (Enclose test results if available):

Sr. No	Description of Test	Remarks

Declaration: This is to certify that the information furnished in the service request form is true to the best of my knowledge and belief.

Date:

Place:

Signature with Seal

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CHECK-LIST (For Order form No.02)

Solar PV Power Converters submitted for testing [IEC61683, IEC62509, EN50530, IEC62116, IEC 61727, IEC60068-2(1, 2, 14 and 30) and MNRE Guidelines, User Specifications at NISE.

The following checklist is required to be satisfied:

Sr. No.	Particulars	Annexure No.	Page From	Page To
	A. Regarding system			
1.	System submitted for (standard)			
2.	The Solar PV Power Converters shall carry the following clear indelible markings: Name, logo or symbol of Manufacturer, Type or model number, serial Number, polarity of terminals or leads.			
3.	Order form duly filled along with the format (to be attached as annexure)			
4.	Circuit diagram matching to the circuit provided in Solar PV Power Converters (Two copies one Duly signed and stamped, one without sign and seal on plain paper) (to be attached as annexure)			
5.	Any other prior relevant certification from any lab if any on the product (to be attached as annexure)			
6.	Bill of materials - component wise (to be attached as annexure)			
7.	User Manual - containing instructions for installation, Operation and maintenance of the Solar PV Power Converters (Printed in English & Local language) (to be attached as annexure)			
8.	Environmental testing certificate as per IEC 60068-2-6/21/27/30/75/78 and IP testing certificate as per standard (to be attached as annexure) (if certified) * if submitted to NISE for Environmental testing this Annexure is not required			
9.	Copy of the registration of the Company as per Registration Act, 1956, joint venture/foreign Collaboration etc. (to be attached as annexure)			
10.	Warranty Card (to be attached as annexure)			



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11.	In-house test report of the Solar PV Power Converter, giving details of testing conducted by the manufacturer (to be attached as annexure)			
12.	Datasheet (to be attached as annexure)			
B. Regarding Company				
1.	Profile of Company and A4 Size coloured Photographs of Fabrication, manufacturing and testing facilities in the company premises (to be attached as annexure)			
2.	List of Equipment /instruments (to be attached as annexure)			
3.	Attested copy of SSI registration/ Company Memorandum/ Acknowledgement from District Industrial Centre Form No. 61 mark (to be attached as annexure)			
C. Test fees & Other				
1.	Transaction details proof including date, transaction ID (Test Fee + Services tax as applicable) for each Solar PV Power Converters. (Enclose copy)			
2.	Undertaking (as per MNRE guidelines) (to be attached as annexure).			
3.	Forwarding letter for sample submission request that includes information of Authorization of Person/Employee of Company (with Photo-ID card number) who is submitting the sample in the premises of NISE. He should carry the Employee Photo-ID card for identification			
4.	If you are an old customer, please indicate with details when did you get your Power Converters sample tested at NISE as annexure			

All the documents submitted by the company should be certified by the competent authority.

Date:

Place:

Signature with Seal

Important Note: -

- To be signed by the competent authority or by an officer, not below the rank of G.M./Equivalent.
- The sample will be received at the Customer Service Cell of NISE till 04:00 PM on any working day.
- The customer will introduce the sample to NISE staff and highlight the main features of the sample including safety measures to be taken into account during testing.



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FORMAT (for Annexure-1)

Details of Solar PV Power Converters to be submitted at NISE for evaluation (To be duly filled by the customer) in the following table whichever is applicable:

Solar PV Power Converters		
1.	Make	
2.	Type (off grid/grid-interactive/Hybrid/Stand-alone/ others specify)	
3.	Model No.	
4.	Serial No.	
5.	Rated Capacity (kVA/ kW)	

Parameters of Solar Charge controller		
S.No.	Parameters	Claims of Manufacturer
1.	Type of Charge Controller (MPPT/PWM/MPPT with PWM or any algorithm)	
2.	Charging algorithm	
3.	Boost/Bulk Voltage	
4.	Float Voltage	
5.	Equalization voltage (if provided)	
6.	Maximum voltage drop across the charge controller (if applicable)	
7.	Maximum charging current from PV modules	
8.	Maximum Voc of PV module	
9.	Voc range (Min- Nominal- Max)	
10.	V _{mp} range (Min- Nominal- Max)	
11.	Maximum Grid charging current	
12.	Charge Controller output suitable for nominal battery bank	
13.	Low battery pre-warning	
14.	Battery lower cut-off voltage	
15.	Battery upper cut-off voltage	
16.	Output behaviour in the case of no battery connection	



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17.	Temperature Compensation	
18.	Parallel Charging (PV+ Grid / or any other)	

Sr. No.	Parameters of Inverter for ON Grid SPV Inverter/Converter	Claims of Manufacturer
1.	Inverter rated capacity (AC & DC) Watts	
2.	Inverter Open circuit voltage range Voc (Min- Nominal- Max)	
	Vmp range (Min- Nominal- Max)	
	90% of Inverter's maximum input voltage Voc	
3.	Grid Voltage range (Min- Nominal- Max) Vrms	
4.	Output frequency range (Min- Nominal- Max) Hz	
5.	Maximum DC input power	
6.	Maximum DC input current per MPPT or String (which ever applicable)	

Sr. No.	Parameters of Inverter for OFF Grid SPV Inverter/Converter	Claims of Manufacturer
1.	Design using MOSFET/IGBT/others	
	Transformer type /transformer-less	
2.	Type of Charge Controller (MPPT/PWM/MPPT with PWM or any algorithm)	
3.	Charging algorithm	
4.	Boost/Bulk Voltage	
5.	Float Voltage	
6.	Equalization voltage (if provided)	
7.	Maximum voltage drop across the charge controller(if applicable)	
8.	No load shutdown active mode (Yes/No)	
9.	Output Voltage waveform	



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10.	Trip time duration on 110% / 120% / 130% / 150% / 200% Load	
11.	Modes of Operation: PV + Battery PV + Battery+ grid	
12.	Digital Display	
13.	Battery Reverse polarity protection	
14.	PV Reverse polarity protection	
15.	Short circuit protection	
16.	Overload protection	
17.	Data logging and Remote monitoring	
18.	Charge Controller output suitable for nominal battery bank	
19.	Low battery pre-warning	
20.	Battery lower cut-off voltage	
21.	Battery upper cut-off voltage	
22.	Output behaviour in the case of no battery connection	
23.	Temperature Compensation	

Claims made by customer on the performance of the Solar PV Power Converters (if any):

Signature of authorized person

Name (in capital Letter):

Designation:

Dated:

Seal of the Company: